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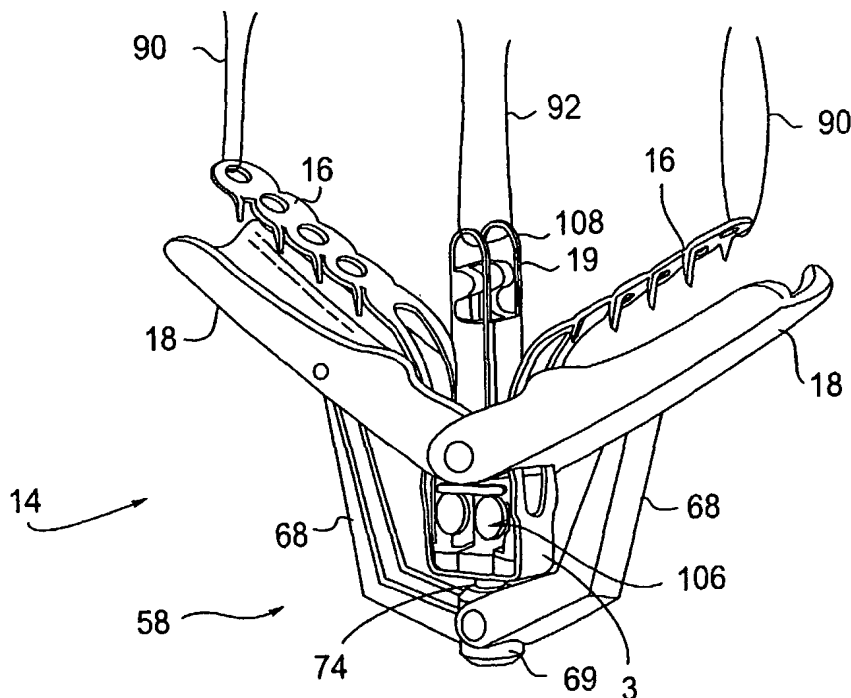
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[Continued on next page]

(54) Title: LOCKING MECHANISMS FOR FIXATION DEVICES AND METHODS OF ENGAGING TISSUE



(57) Abstract: Devices, systems and methods are provided for tissue approximation and repair at treatment sites. In particular, fixation devices are provided comprising a pair of fixation elements each having a first end, a free end opposite the first end, and an engagement surface therebetween for engaging the tissue, the first ends being movably coupled together such that the fixation elements are moveable between an open position wherein the free ends are spaced apart and a closed position wherein the free ends are closer together with the engagement surfaces generally facing each other. The fixation devices also include a locking mechanism coupled to the fixation elements for locking the fixation elements in place. The devices, systems and methods of the invention will find use in a variety of therapeutic procedures, including endovascular, minimally-invasive, and open surgical procedures, and can be used in various anatomical regions, including the abdomen, thorax,

cardiovascular system, heart, intestinal tract, stomach, urinary tract, bladder, lung, and other organs, vessels, and tissues. The invention is particularly useful in those procedures requiring minimally-invasive or endovascular access to remote tissue locations, where the instruments utilized must negotiate long, narrow, and tortuous pathways to the treatment site.



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# INTERNATIONAL SEARCH REPORT

International application No.

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 17/04  
US CL : 606/213

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 606/213

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages      | Relevant to claim No. |
|------------|---|-----------------------|
| A          | US 2004/0078053 A1 (BERG et al) 22 April 2004 (22.04.2004), see paragraph [0048].       | 1-51                  |
| A          | US 5,069,679 A (TAHERI) 03 December 1991, (03.12.1991), see Abstract of the Disclosure. | 1-51                  |
| A          | US 2003/0208231 A1 (WILLIAMSON et al) 06 November 2003 (06.11.2003), see paragraph 12.  | 1-51                  |

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

| * Special categories of cited documents:  | "T"  |
|---|--|
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| "P" document published prior to the international filing date but later than the priority date claimed  |  |

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